

## PEY15

**THE IMPACT OF PHARMACOTHERAPY COMPLIANCE ON HEALTH CARE CHARGES IN PATIENTS WITH PRIMARY OPEN-ANGLE GLAUCOMA**Tsai J<sup>1</sup>, Lee JH<sup>2</sup>, Williams K<sup>3</sup>, Walt JG<sup>3</sup>, Doyle J<sup>4</sup>, Stern L<sup>4</sup>, Dolgitsier M<sup>4</sup><sup>1</sup>Yale University School of Medicine, New Haven, CT, USA, <sup>2</sup>Allergan Pharmaceuticals, Franklin, TN, USA, <sup>3</sup>Allergan Pharmaceuticals, Irvine, CA, USA, <sup>4</sup>Analytica International, New York, NY, USA

**OBJECTIVES:** Understand the relationship between pharmacotherapy compliance and health care charges among primary open-angle glaucoma (POAG) patients. **METHODS:** A retrospective case-control study utilizing the PharMetrics claims database (1997–2006). Cases were identified as glaucoma patients who had a glaucoma surgery (trabeculectomy or trabeculectomy, the first identified as index date); controls were glaucoma patients who did not have surgery (matched 1 : 2 on age, gender, and Charlson comorbidity index; last glaucoma medication prescription served as index date). Both cases and controls were required to have at least 2 years of continuous enrollment prior to index date. Medication coverage was defined as the percent of days during which a patient was in possession of glaucoma medication over the 2 years of follow-up pre-index date. The 75th percentile of coverage served as the compliance/non-compliance cutoff. Glaucoma-related charges (identified as claims with ICD-9 code 365.11) were assessed over the 2 years of follow-up pre-index date. Multivariate linear regression models assessed the association between compliance and glaucoma-related charges, while controlling for key covariates. **RESULTS:** Cases (N = 3194) and matched controls (N = 6388) did not vary substantially in descriptive analyses. The mean coverage was significantly higher for controls (0.47, SD = 0.28) than for cases (0.45, SD = 0.29;  $P < 0.01$ ). The 75th-percentile of overall coverage (for both cases and controls) was 0.69; this was used as the cutoff for compliant/non-compliant patient categorization. When adjusting for covariates (such as surgery status, descriptives, comorbidities, length of enrollment, and duration of glaucoma), patients who were compliant had had approximately 16.4% (\$37) less glaucoma-related health care charges (\$188 vs. \$225;  $p < 0.0001$ ) than patients who were not compliant. **CONCLUSION:** POAG patient compliance with glaucoma medications is relatively low, which is comparable to other chronic diseases. Patients who are compliant have lower glaucoma-related health care charges than patients who are not compliant.

## PEY16

**DEPRESSIVE SYMPTOMATOLOGY, MEDICATION PERSISTENCE, AND ASSOCIATED HEALTH CARE COSTS IN OLDER ADULTS WITH GLAUCOMA**Jayawant SS<sup>1</sup>, Bhosle MJ<sup>1</sup>, Anderson RT<sup>2</sup>, Balkrishnan R<sup>1</sup><sup>1</sup>The Ohio State University College of Pharmacy, Columbus, OH, USA, <sup>2</sup>Wake Forest University School of Medicine, Winston Salem, NC, USA

**OBJECTIVES:** Depressive symptoms may have an impact on patients' medication use behavior and utilization of health care services. This study examined association between depressive symptoms and medication-related persistence and predictors of associated health care charges in older adults (aged 65 and above) with open angle glaucoma. **METHODS:** This study utilized a retrospective cohort of older adults with primary open angle glaucoma who completed a health status assessment upon enrollment in plan, had a claim for open angle glaucoma (ICD-9 codes), used glaucoma medications, and were enrolled in a Medicare HMO. Duration of the study was from January 2000 to December 2002. The baseline assessment surveyed patients on their demographics, health care service utilization in the year

prior to enrollment, lifestyle, and quality of life. Demographic, clinical, and utilization-related economic variables were retrieved from the administrative claims database of the patients' HMO. Survival analysis techniques were used to measure time to discontinuation (Persistence rate). The short-form Center for Epidemiologic Studies Depression Scale was used to assess level of depressive symptomatology on a scale of 0 to 60. Associations were examined using mixed-model multiple and logistic regression approach. Sensitivity analysis that considered log-transformed and untransformed specifications of the cost variable tested model appropriateness. **RESULTS:** A total of 268 patients were included. After controlling for potential confounders and temporal effects, depressive symptomatology was associated with decreased medication-related persistence ( $p < 0.005$ ). Patients who lived alone and had cardiovascular disease showed higher odds of experiencing depressive symptoms ( $p < 0.005$ ). Male gender was associated with decreased persistence in glaucoma medications ( $p < 0.05$ ). Health care charges increased with increase in number of comorbidities and prescriptions ( $p < 0.005$ ). **CONCLUSION:** Presence of depressive symptoms in patients lead to poor medication use behavior. Risk assessment done upon enrollment offers the advantage of improving health outcomes and reduce health care utilization.

## PEY17

**MULTIPLE METHODS TO ESTIMATE THE MINIMAL CLINICALLY IMPORTANT DIFFERENCE OF THE OCULAR SURFACE DISEASE INDEX®**Miller KL<sup>1</sup>, Mink DR<sup>1</sup>, Mathias SD<sup>1</sup>, Walt JG<sup>2</sup><sup>1</sup>Ovation Research Group a Division of ICON Clinical Research, San Francisco, CA, USA, <sup>2</sup>Allergan Inc, Irvine, CA, USA

**OBJECTIVES:** To assess the minimal clinically important difference (MCID) of the Ocular Surface Disease Index® (OSDI®) using multiple computation methods. **METHODS:** The OSDI is a 12-item patient-reported outcomes (PRO) questionnaire specifically designed to quantify ocular disability due to dry eye disease. The Overall OSDI score ranges from 0 to 100; with scores categorized by ocular disease severity, i.e. normal (0–12), mild (13–22), moderate (23–32) and severe (33–100). To estimate the MCID for the OSDI, we used data from the RESTORE Registry study, which collects clinical, efficacy, PRO, including the OSDI, and safety data from patients with dry eye disease. We applied three anchor-based approaches to a clinician's global impression rating (CGI) and a subject global assessment (SGA). In each analysis, we computed one-way ANOVA with different subsets of patients responding with the smallest clinical change (minimal improvement/worsening for the CGI and improved/worse for the SGA). Patients were included in our analysis if they completed the OSDI at baseline and at a subsequent follow-up visit and completed the SGA or their clinician completed the CGI. **RESULTS:** Data from 160 patients were available. 84% of patients were Caucasian, 85% female, and mean age was 59.7 years. Both the CGI and the SGA were significantly correlated with the OSDI change score ( $r = -0.350$ ,  $p < 0.0001$  and  $r = -0.443$ ,  $p < 0.0001$ ). Most patients reported an improvement in OSDI scores. The mean change in OSDI score was similar for both anchors:  $-10.6$  (N = 154, SD = 17.8) and  $-10.6$  (N = 144, SD = 18.1), for the CGI and SGA, respectively. The MCID ranged from  $-4.9$  to  $-8.7$  for the CGI anchor and from  $-7.7$  to  $-9.0$  for the SGA anchor. **CONCLUSION:** Although preliminary, these results will assist clinicians and researchers when interpreting change in OSDI scores. The ongoing data collection from RESTORE will allow future analyses of larger sample sizes to finalize the MCID estimates.